

# The Southern Gamma-ray Survey Observatory



simulation workshop

# The HAWC software...

The screenshot shows the GitLab web interface for the 'SGSO software' group. The top navigation bar includes 'GitLab', 'Projects', 'Groups', 'Activity', 'Milestones', and 'Snippets'. A search bar is present with the text 'Search or jump to...'. The main content area shows the group name 'SGSO software' with a lock icon and a 'Leave group' link. Below this is a description: 'Software for the Southern Gamma-ray Survey Observatory.' There are tabs for 'Subgroups and projects', 'Shared projects', and 'Archived projects'. A search box 'Search by name' and a dropdown 'Last created' are also visible. A list of projects is shown below, including 'aerie-install', 'aerie', 'HAWC limited code release', and 'aerie documentation', each with a bookmark icon, a star icon, a lock icon, and a timestamp.

Project Name	Description	Stars	Lock	Created
aerie-install	Installing externals and aerie.	0	Yes	1 day ago
aerie	SGSO's Aerie fork.	0	Yes	1 day ago
HAWC limited code release		0	Yes	3 days ago
aerie documentation		0	Yes	11 hours ago

<https://gitlab.com/sgso-alliance>

# The HAWC software installation...

install.sh

GUI commands, commented out for now.

5 hours ago

README.md

<https://gitlab.com/sgso-alliance/aerie-install>

## Aerie install procedure

### Pre-requisite

We need to clean up the install procedure and make it more cross platform. The present procedure should work on Linux with a `gcc` version recent enough to support C++11. Recommended are gcc 7 and newer. Recent versions of clang (XCode on the mac) also work.

### Installation

Here is an all-in-one script which:

- sets up a Conda environment with Python 2.7
- installs externals required for Aerie with `APE`, including Geant4 (for HAWCSim)
- installs Aerie
- runs the tests

I moved the packages to be downloaded to a password-free location, but APE asks a password anyway. Just type return, that will work, we'll fix this later.

Note that during the install process, you have to hit `return` about 2 minutes after starting. Then if all goes well it will keep running for about 90 minutes without any required intervention.

All will be installed within a single directory, `TARGET=${HOME}/sgso_aerie` by default. You can change it and a few other variables (e.g. `export N_THREADS=8`) in the block of exports at the beginning of the script.

# Lets use Slack to ask questions

**SouthernGamma** ▾

- harm
- # dark\_matter
- # extragalactic
- # fermi\_bubbles\_etc
- # galatic\_accelerators
- # gemingas
- # general
- # pevatronsection
- # random
- 🔒 science\_case\_wg
- # simulations**
- # transients

Direct Messages

- ♥ Slackbot
- harm (you)
- 🔗 Aion Viana
- 👤 Aion Viana, harding, Ji...
- 👤 chad, rlopez, henrikef
- fabian.schussler
- 👤 fabian.schussler, syben...
- 🔗 Hugo
- 👤 marcos
- rlopez
- 🔗 sybenzvi

Apps

+ Add apps

## #simulations

☆ | 👤 25 | 📌 0 | ✎ Add a topic

### # simulations

You created this channel on December 3rd, 2016. This is the very beginning of the **# simulations** channel. Purpose: Discussions about air shower simulation, detector design, and sensitivity curve calculations. And common software ([edit](#))

[+ Add an app](#) [👤 Invite others to this channel](#)

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December 3rd, 2016

**harm** 11:44 AM  
joined #simulations.

**harm** 11:44 AM  
set the channel purpose: Discussions about air shower simulation, detector design, and sensitivity curve calculations

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December 6th, 2016

**pooja** 11:56 AM  
joined #simulations along with 19 others.

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Today

**harm** 12:53 PM  
set the channel purpose: Discussions about air shower simulation, detector design, and sensitivity curve calculations. And common software

**Jim Hinton** 12:59 PM  
joined #simulations along with 3 others.

# What do we want to get out off the workshop

- ▶ A function framework for software development
  - Usage of git
  - Installation procedure
  - Python support?
- ▶ Examples on which we can build-upon
- ▶ Division of labor
- ▶ Expanding functionality of the software framework to support SGSO
  - New unit designs
  - Fix hard coded HAWC specific parts